

CLAIMS

1. A radiation-curable optical fiber coating composition comprising:
  - (a) a radiation-curable oligomer; and
  - 5 (b) an alkoxyated aliphatic reactive diluent comprising an aliphatic moiety having at least 7 carbon atoms.
2. A radiation-curable optical fiber coating composition comprising:
  - (a) a radiation-curable oligomer; and
  - 10 (b) an aliphatic reactive diluent having one radiation-curable functional groups and on average at least two alkoxy moieties.
3. The coating composition according to any one of claims 1-2, comprising, relative to the total weight of said coating composition, 1-50 wt% of said aliphatic  
15 reactive diluent.
4. The coating composition according to any one of claims 1-3, comprising, relative to the total weight of said coating composition, at least 35 wt% of said radiation-curable oligomer.  
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5. The coating composition according to any one of claims 1-4, wherein said aliphatic reactive diluent comprises an aliphatic moiety having at most 20 carbon atoms.
- 25 6. The coating composition according to any one of claims 1-5, wherein said aliphatic reactive diluent comprises wherein said aliphatic reactive diluent comprises an aliphatic moiety having 8-15 carbon atoms.
7. The coating composition according to any one of claims 1-6, wherein said  
30 aliphatic reactive diluent comprises an acrylate functional group.
8. The coating composition according to any one of claims 1-7, wherein said aliphatic reactive diluent is absent any ring structure.
- 35 9. The coating composition according to any one of claims 1-8, further comprising an additional reactive diluent.

10. The coating composition according to any one of claims 1-9, further comprising a silane adhesion promoter.

5 11. The coating composition according to any one of claims 1-9, further comprising, relative to the total weight of the composition, at least 0.6 wt% of gamma-mercaptopropyl trimethoxysilane.

10 12. The coating composition according to any one of claims 1-11, further comprising a photoinitiator.

13. The coating composition according to any one of claims 1-12, wherein said coating composition has a cure speed of less than 0.30 J/cm<sup>2</sup>.

15 14. The coating composition according to any one of claims 1-13, wherein said coating composition has a faster cure speed when compared to a composition that is identical except that said aliphatic reactive diluent in said coating composition has been replaced in the identical composition with an equal weight of a reactive diluent that is identical to said aliphatic reactive diluent except that the identical reactive diluent is not alkoxyated.

15. A coated optical fiber comprising a coating obtained by curing the coating composition according to any one of claims 1-14.

25 16. The fiber of claim 15, wherein said coating is an inner primary coating.

17. The fiber of claim 16, wherein said coating has a modulus of less than 1.5 MPa.

18. The fiber of claim 15, wherein said coating is an outer primary coating.

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19. The fiber of claim 18, wherein said coating has a modulus of at least 200 MPa.